

REMARKS

Claims 2-26, 32 and 35-41 are pending in this application. Claims 2-26, 32 and 35-41 stand rejected. Reconsideration and further examination of the subject patent application in light of the present Amendment and Remarks is respectfully requested.

Rejections Under 35 U.S.C. §103

Claims 2, 3, 7, 8 and 11-26 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Pat. Publ. No. US 2003/0021188 to Baranek et al. in view of U.S. Pat. No. 7,127,070 to Kimura et al. and U.S. Pat. No. 6,792,404 to Jacob. Applicant respectfully traverses the rejections.

In response, independent claim 2 has been further clarified to include “a plurality of loud speakers that emit intelligibility test signals throughout a region; a plurality of fixedly mountable microphones that receive audio input corresponding to the intelligibility test signals based upon their respective physical relationship with the members of the plurality of speakers.” Independent claims 7, 11 and 18 has been similarly clarified. The plurality of loud speakers 32 that emit intelligibility test signals throughout a region R is discussed in paragraphs [0023-25] of the specification. The receipt of audio input by a plurality of microphones based upon the physical relationship of each microphone with respective members of the loud speakers 32 is discussed in paragraph [0026] of the specification.

Claims 2, 3, 7, 8 and 11-26 are now clearly differentiated over Baranek et al., Kimura et al. and Jacob. For example, rather than evaluating “intelligibility of audio received by the respective microphones based upon the comparative depth of modulation” Baranek et al. merely searches for a sonic wave created by gunfire. In this regard, Baranek et al. explicitly states that “If the signal received and transmitted by the transducer is of a sufficient decibel level and for a

sufficient time duration, it is determined by the detector to be a firearm discharge” (Baranek et al., par. [0014]).

However, as would be clearly understood by those of skill in the art, the detection of the discharge of a firearm is fundamentally different than any determination of intelligibility. On a first level, Baranek et al. merely uses decibel level and duration to detect gunfire rather than any perceived depth of modulation.

Moreover, an object of the Baranek et al. “invention is to communicating to police or security personnel the exact location of a firearm discharge inside the building” (Baranek et al., par. [0016]). Under Baranek et al., “an electronic signal is communicated to a remote central monitoring unit which determines from the signal communicated the exact location of the detector which has determined that a firearm has in fact been discharged” (Baranek, et al., par. [0011]). As such, only one of the Baranek et al. detectors is used to achieve the objectives of Baranek et al.

Baranek et al. involves a single audio source. The single audio source of Baranek et al. is a firearm. In contrast, the claimed invention is directed to “a plurality of loud speakers that emit intelligibility test signals throughout a region.” Since Baranek et al. is directed to the detection of the discharge of a firearm from a single source using a single audio detector, Baranek et al. could not be modified to generate “an indicator of intelligibility on a per microphone basis” without fundamentally changing the way that Baranek et al. operates.

On a more fundamental level, the determination of decibel level and duration of sonic waves has nothing to do with determining intelligibility. For example, an audible signal having a low decibel level (e.g., barely above a whisper) and high level of modulation would clearly

have a higher level of intelligibility than a gunshot having a high decibel level delivered as a sonic wave.

Moreover, Webster's New Third International Dictionary defines "modulation" as the variation of a characteristic (as amplitude, frequency, or phase) of a carrier or signal in a periodic or intermittent manner for the transmission of intelligence." The sonic wave created by a gunshot neither contains modulation or transmits intelligence.

Since Baranek et al. is directed to detecting gunshots, Baranek et al. must be continuously activated in order to perform its intended purpose. As such, Baranek et al. teaches away from the periodic testing for intelligibility.

The Office Action asserts that

"Although, Baranek et al. disclose of such automatically detecting a received signal, but, Baranek et al. never specify of having the microphone including circuitry that automatically detects a received signal at a predetermined time. But, Kimura et al. disclose of a broadcasting system wherein the similar concept of having a microphone including circuitry that automatically detects a received signal at a predetermined time (fig.1 (10); col.4 line 40-58; col.6 line 18-42/microphones being selectively used during diagnosis as per each block to detect signal at a predetermined time) so as to prevent reduction of sound clearness caused by interference of the loudspeaker broadcastings at the adjacent blocks during self-diagnosis operation of the loudspeakers. Thus; - it would have been obvious for one of the ordinary skill in the art to have modified the combination with incorporating the microphone including circuitry that detects a received signal at a predetermined time so as to prevent reduction of sound clearness caused by interference of the loudspeaker broadcastings at the adjacent blocks during self-diagnosis operation of the loudspeakers" (Office Action of 10/6/09, page 6).

However, there is no indication that Baranek et al. would benefit from "circuitry that automatically detects a received signal at a predetermined time." More importantly, however, is that those of skill in the art would recognize that gunfire does not occur at predetermined times. Those of skill in the art would recognize that "circuitry that automatically detects a received

signal at a predetermined time” (as under Kimura et al.) would render Baranek et al. inoperable to the extent that gunshots occur randomly.

Moreover, the loud speaker testing of Kimura et al. is performed in adjacent block during alternative time periods. As such, Kimura et al. teaches away from the testing of all of the microphones at a single predetermined time.

More importantly, however, is that the reason for combining “to prevent reduction of sound clearness caused by interference of the loudspeaker broadcastings at the adjacent blocks during self-diagnosis operation of the loudspeakers” has an almost unlimited number of solutions, including changing the broadcast content in different blocks, such as taught by Kimura et al. (see for example, the Abstract). The almost unlimited number of solution to the reason for combining serves to further demonstrate the novelty of the claimed invention over the combination of Baranek et al. and Kimura et al.

Similarly, Jacob is merely directed to a handheld spectrum analyzer 10 containing a STI measurement algorithm. Rather than being adapted for automatic testing, Jacob explicitly provides “a selector for activating an STI measurement in accordance with the invention” (Jacob, col. 2, lines 1-2). As such, Baranek et al., Kimura et al. and Jacob and the combination of Baranek et al., Kimura et al. and Jacob teach away from automatically testing for intelligibility at predetermined time periods.

The Office Action fails to provide any motivation for combining Baranek et al. with Kimura et al. Jacob other than hindsight analysis based upon the use of the Applicant’s specification as a template. In this regard, “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some

rational underpinning to support the legal conclusion of obviousness” (KSR, 550 U.S. at 398 (2007), 82 USPQ2d at 1396).

In the case at hand, Baranek et al. explicitly states that “Sonic waves monitored by the transducer are communicated through an amplifier and through filters which only pass a signal that is between a certain high point and low point on the decibel scale” (Baranek et al., par. [0014]). However, as would be abundantly clear to those of skill in the art, intelligibility testing would require passing all signals, not just those between a certain high point and low point on the decibel scale. Moreover, modifying Baranek et al. to pass all signals would involve a fundamental change in the way that Baranek et al. operates.

In addition, claim 2 is limited to “a plurality of fixedly mountable microphones; circuits . . . including circuitry that . . . analyzes the received signal . . . generates an indicator of intelligibility on a per microphone basis.” Since Baranek et al. detects gunfire, Baranek et al. does not generate “an indicator of intelligibility on a per microphone basis” or of any automatic transmission of an intelligible test signal and analysis thereof.

Kimura et al. is merely directed to method of reducing reverberation in a tunnel. Nowhere in Kimura et al. is there any teaching or suggestion of any automatic transmission of an intelligible test signal and analysis thereof.

Similarly, Jacob is explicitly directed to a handheld spectrum analyzer with “a selector 11 for activating an STI measurement.” Since Jacob is directed to a handheld spectrum analyzer, Jacob also fails to provide “a plurality of fixedly mounted microphones” that generate “an indicator of intelligibility on a per microphone basis” or of any automatic transmission of an intelligible test signal and analysis thereof

For any of the above reasons, the combination of Baranek et al., Kimura et al. and Jacob fails to teach or suggest each and every claim limitation. In addition, the combination (and Office Action) fails to provide any teaching, suggestion or other reason to combine Baranek et al. and Jacob. Since the combination fails to teach or suggest each and every claim limitation and there isn't any reason to combine Baranek et al., Kimura et al. and Jacob, the rejections are improper and should be withdrawn.

Claims 4-6, 9, 10, 32, and 35-41 stand rejected under 35 U.S.C. §103(a) as being obvious over by U.S. Pat. Publ. No. US 2003/0021188 to Baranek et al. in view of U.S. Pat. No. 6,792,404 to Jacob and U.S. Pat. Publ. No. US 2003/0128850 to Kimura et al. Applicant respectfully traverses these rejections.

In response, claim 4 has been further limited to “a plurality of audio output devices that audibly produce speech intelligibility test signals throughout an associated geographic region a plurality of fixedly mountable microphones, each of the microphones is capable of receiving audio corresponding to the speech intelligibility test signals in the associated geographic region in which that microphone is located based upon the physical relationship of the microphone with respective members of the plurality of audio output devices.” Independent claims 9, 32, 37 and 40 have been similarly limited. The plurality of loud speakers 32 that emit intelligibility test signals throughout a region R is discussed in paragraphs [0023-25] of the specification. The receipt of audio input by a plurality of microphones based upon the physical relationship of each microphone with respective members of the loud speakers 32 is discussed in paragraph [0026] of the specification.

Claims 4-6, 9, 10, 32, 35, 36 and 38-41 are now clearly differentiated over Baranek et al., Jacob and Kimura et al. For example, rather than evaluating “intelligibility of audio received by

the respective microphones based upon the comparative depth of modulation” Baranek et al. merely searches for a sonic wave created by gunfire. In this regard, Baranek et al. explicitly states that “If the signal received and transmitted by the transducer is of a sufficient decibel level and for a sufficient time duration, it is determined by the detector to be a firearm discharge” (Baranek et al., par. [0014]).

However, as would be clearly understood by those of skill in the art, decibel level and duration of sonic waves has nothing to do with determining intelligibility. For example, an audible signal having a low decibel level (e.g., barely above a whisper) and high level of modulation would clearly have a higher level of intelligibility than a gunshot having a high decibel level delivered as a sonic wave.

Moreover, Webster’s New Third International Dictionary defines “modulation” as the variation of a characteristic (as amplitude, frequency, or phase) of a carrier or signal in a periodic or intermittent manner for the transmission of intelligence.” The sonic wave created by a gunshot neither contains modulation or transmits intelligence.

Since Baranek et al. is directed to detecting gunshots, Baranek et al. must be continuously activated in order to perform its intended purpose. As such, Baranek et al. teaches away from the periodic testing for intelligibility.

Similarly, Jacob is merely directed to a handheld spectrum analyzer 10 containing a STI measurement algorithm. Moreover, rather than being adapted for automatic testing, Jacob explicitly provides “a selector for activating an STI measurement in accordance with the invention” (Jacob, col. 2, lines 1-2). As such, both Baranek et al. and Jacob teach away from automatically testing for intelligibility at predetermined time periods.

In contrast, Kimura et al. is merely directed to the damping of reverberation of loudspeaker signals in closed spaces by modifying a broadcast content. However, the damping of reverberation of loudspeaker signals in closed spaces is not the same as determining an indicator of intelligibility.”

Moreover, the Office Action fails to provide any motivation for combining Baranek et al. with Jacob and Kimura et al. other than hindsight analysis based upon the use of the Applicant’s specification as a template. In this regard, “[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” (KSR, 550 U.S. at 398 (2007), 82 USPQ2d at 1396).

In the case at hand, Baranek et al. explicitly states that “Sonic waves monitored by the transducer are communicated through an amplifier and through filters which only pass a signal that is between a certain high point and low point on the decibel scale” (Baranek et al., par. [0014]). However, as would be abundantly clear to those of skill in the art, intelligibility testing would require passing all signals, not just those between a certain high point and low point on the decibel scale. Moreover, modifying Baranek et al. to pass all signals would involve a fundamental change in the way that Baranek et al. operates.

In addition, independent claim 4 is limited to “a plurality of fixedly mountable microphones . . . circuits . . . including circuitry that . . . analyzes the received signal . . . generates an indicator of intelligibility on a per microphone basis.” Independent claims 9, 32 and 37 contain similar limitations. Since Baranek et al. detects gunfire, Baranek et al. does not generate “an indicator of intelligibility on a per microphone basis.”

Similarly, Jacob is explicitly directed to a handheld spectrum analyzer with “a selector 11 for activating an STI measurement.” Since Jacob is directed to a handheld spectrum analyzer, Jacob also fails to provide “a plurality of fixedly mountable microphones” or generate “an indicator of intelligibility on a per microphone basis.”

Kimura et al. is simply directed to a system for broadcasting appropriate content without sound clearness. Since Kimura et al. is directed broadcasting a signal, Kumura et al. also fails to generate “an indicator of intelligibility on a per microphone basis.”

For any of the above reasons, the combination of Baranek et al., Jacob and Kimura et al. fails to teach or suggest each and every claim limitation. In addition, the combination (and Office Action) fails to provide any teaching, suggestion or other reason to combine Baranek et al., Jacob and Kimura et al. Since the combination fails to teach or suggest each and every claim limitation and there isn't any reason to combine Baranek et al., Jacob and Kimura et al., the rejections are improper and should be withdrawn.

Closing Remarks

For the foregoing reasons, applicant submits that the subject application is in condition for allowance and earnestly solicits an early Notice of Allowance. Should the Primary Examiner be of the opinion that a telephone conference would expedite prosecution of the subject application, the Primary Examiner is respectfully requested to call the undersigned at the below-listed number.

The Commissioner is hereby authorized to charge any additional fee which may be required for this application under 37 C.F.R. §§ 1.16-1.18, including but not limited to the issue

Appl. No. 10/740,200

fee, or credit any overpayment, to Deposit Account No. 23-0920. Should no proper amount be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 23-0920. *(If filed by paper, a duplicate copy of this sheet(s) is enclosed).*

Respectfully submitted,

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